Business Metrics: The Importance of the Perfect Order Measurement

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ABSTRACT

Measures of business performance are critical for continuous improvement. Perfect order is one such measure that truly captures what is happening in your business and how satisfied your customers are with your firm’s performance.

INTRODUCTION

We are measured in our daily lives in everything we do. How much money do you make? How big is your office? Doctors measure our weight at every office visit. We are measured in a multitude of ways and many perceptions are formed from the answers to those questions. Our businesses are also measured. Did your firm meet its goals? Did your business unit make a profit? How much inventory do you have on hand? The answers to any one of these questions can provide insight into the health of your business. To determine how well your business is doing investors use financial measurements. The cost accounting group, customer service, and operations personnel use inventory measurements to determine your firm’s ability to meet customer’s needs. Which group of business measurements really highlights the health of your business? The Perfect Order measurement can provide a measure of how your business is doing.

The value of the Perfect Order measurement is without equal in ascertaining a company’s overall ability to meet their business goals and objectives. What then is the Perfect Order? The Perfect Order is an order delivered to a customer that is “complete, accurate, on time and in perfect condition” (Hoffman 2002, p. 1). This covers much ground and has the potential to touch every aspect of your business. “The reason [the Perfect Order is] especially valuable is that it’s the end result of all your business operations” (Hoffman 2002, p. 1). By definition a Perfect Order is achieved when a customer can contact your organization, place an order for a product in a timely manner, have the product available when they want it, at the price they are willing to pay, have it delivered when they want it without damage and be able to pay the invoice without any problems. These actions transcend every aspect of your organization. The customer service, production, inventory management, distribution, and finance functions all must be working together to allow your organization to reach Perfect Order status each and every time.

Each area of an organization has a way to measure itself. The real issue is which of these measurements really provide a full understanding of whether your business is succeeding or failing. The following sections discuss several critical business metrics.

Financial Measures

The finance department is very important to the health of an organization. They provide many measurements of the monetary aspect of a business. Investors and financial institutions look at these measurements to determine your company’s wealth, but do they really tell the whole story?

Many financial metrics are used to evaluate the financial health of your organization, the balance sheet, income statement, and financial ratios are just a few. The balance sheet indicates a firm’s assets and claims
against the company (liabilities and owners’ equity) at a particular point in time; whereas, the income statement shows a firm's revenues and expenses for some financial period. The focus for both reports is the financial health of an organization and not on the company’s ability to fulfill their customer’s needs. These documents are very important to investors and corporate officers but how much value is placed on them by the customer? A customer wants to receive their product when they want it and neither of these reports will help a customer understand if an organization can accomplish this.

Financial ratios are used to “explain trends and to summarize financial statements and other reports” (Thomsett 1990, p. 16). The quick assets ratio, inventory turnover, and debt/equity ratio are a few ratios that firms may use. The quick assets ratio looks at the relationship between “current assets and current liabilities without inventory included” (Thomsett 1990, p. 18). This ratio tells a potential customer nothing about the ability of the company to meet their demands. It simply states that a company can cover their debts if they ran out of inventory at the time the ratio was calculated. Inventory turnover measures “the cost of goods sold (costs directly related to sales, such as materials purchased and direct labor) to the average inventory level” (Thomsett 1990, p. 19). This measurement gets closer to the customer but it still only indicates how well a company manages their inventory, not how well they can fill your order when you want it.

The debt/equity ratio measures “total liabilities and tangible net worth, [where] tangible refers to net worth exclusive of assets that do not have physical value” (Thomsett 1990, p. 19). It looks at the amount of debt a company has against their total market capitalization. Again, this ratio cannot give the customer confidence that the company will meet their needs. Financial measurements and reports by themselves will not give a complete picture of the business, especially not about the firm’s ability to meet customer needs; but they do provide information necessary to help achieve the Perfect Order.

Efficiency Measures

Most businesses want to know how efficient they are. How quickly and economically they can produce goods, take orders, distribute those goods, and collect their revenues. These measurements help management make decisions that effect personnel, processes, capital investments, and budgeting. How does this fit into the Perfect Order measurement? Directly it does not, since efficiency measurements are derived from hours worked at a task compared to output attained. Many of these measurements are used by distribution center managers, especially order processing, receiving, and pick/pack/ship operations. Goals are set that will help management determine when to add resources to an operation (e.g., more personnel or upgraded computer systems). While there is not a direct link between efficiency and the Perfect Order it is an important measurement which can help you understand your DC cost and resource needs, but it will not tell you if your customer will get their order on time. These metrics provide very little insight into your overall process flows.

Productivity Measures

Productivity is a key word used by Wall Street to gain an understanding of an organization’s output. “Improving organizational productivity is an issue that has been with us for some time and will continue to be important. All types of organizations need to be as productive as possible to best utilize their precious resources, to meet their customers needs, and to stay competitive with similar organizations” (Pritchard 1995, p. 1). According to Jason Jennings in “Less is More” (2002, pp. xv-xvi) the criteria for determining if a company is productive are:

- Revenue per employee
- Return on equity and return on assets
- Operating income per employee
These criteria use revenue or sales as a guidepost to determine the health of your company. While important, they do not give the customer the feeling that your organization is going to satisfy their needs. Revenue per employee compares annual revenue to the number of employees in the organization. This measurement will allow you to compare the efficiency of your workforce. Return on equity and return on assets measures look at how well an organization spends their capital dollars, but they are not much help for the customer trying to determine which organization will fulfill their orders on time and accurately. However, by looking into capital investments a customer can find out if the organization is spending resources to upgrade distribution networks, manufacturing or customer service operations, but this will not provide a quick snapshot of how effective the organization will be in meeting customer’s needs. Operating income per employee is another measurement of productivity which compares “income from operations to the number of full time, or full time equivalent, employees” (Jennings 2002, p. xvii). This measurement will provide insight into how well run the firm is but not much information on how orders are filled and delivered. While important to investors and management the customer sees little value in these comparisons since they provide minimal indication of how well customer needs will be addressed by the organization.

Customer Satisfaction Measures

Customer satisfaction measurements enable management to understand how well they are meeting customer’s needs. In “Beyond Customer Satisfaction to Customer Loyalty” Keki Bohte (1996) discusses the four stages of customer loyalty. These stages are broken down to ten customer related characteristics, which are then compared to the four stages of customer satisfaction. Two of these characteristics, customer requirements and customer measurements deserve closer scrutiny in the context of the Perfect Order.

Customer requirements are one aspect of the Perfect Order measurement. Any organization that can reach Stage 4 of the customer loyalty scale, defined as the use of “quality function deployment” (Bhote 1996, p. 9) is on their way to reaching Perfect Order status. Quality Function Deployment (QFD) is defined as “determining each important customer requirement, its priority for customers, and how a company stacks up against its best competition for that requirement” (Bhote 1996, p. 9). By measuring and being successful at QFD an organization knows that they are at least on the right track to gaining their customer’s loyalty and being able to satisfy their demands. This will help the firm reach the Perfect Order status needed to be successful in today’s competitive marketplace.

Customer measurements are important to the Perfect Order as well. For organizations that reach Stage 4 in customer loyalty, they typically “monitor defection rates, entice former customers back, and research non-customers. [They] concentrate not only on retention of customers but in their longevity” (Bhote 1996, p. 10). These types of activities can be used to determine your organizations ability to reach the Perfect Order status. By asking customers what went right or wrong with their purchasing experience you gain feedback needed to improve.

All the measurements discussed so far provide a look at how your organization is doing in a particular area or department. The finance department, customer service, manufacturing, and distribution all have their own measurements. The challenge is to pull all of these measurements into one snapshot that can provide insight into how the organization is performing end-to-end. The Perfect Order measurement will provide a single statistic to determine how well your organization is running. The end result is customer satisfaction and ultimately customer loyalty.

Perfect Order Measures

The Perfect Order measurement encompasses any area of customer interaction including support areas for the customers or their orders. “The Perfect Order touches all areas of a company’s supply chain,
extending through the organization to business partners ("The Perfect Order" 2006). “Consistently achieving the perfect order requires excellence across the processes of your extended supply chain—from forecasting and planning to execution on order fulfillment and delivery.”

Was a complete order delivered? This component of the Perfect Order is controlled by planning and purchasing and is dependent on the organization’s delivery operations group. The planning and purchasing groups work to ensure the items are available to prevent incomplete orders. Zinn, Mentzer, and Croxton (2002) acknowledge that this is not easy since “the availability level experience by an individual customer is not captured by current measures of inventory availability [since] current measures are item or order oriented rather than focused on individual customers” (p. 19). The planning group needs to conduct analysis regularly to determine their inventory needs to ensure the distribution center has the items needed to reach 100% fill-rates and ensure the shipment of complete orders. Fortunately, there are many software solutions available to forecast inventory based on past performance that makes this a relatively easy task. Of course knowing what you need and having it on hand are two different issues. The supply chain has to be performing well to react to the forecast and ensure the parts are available when needed to fill the customer orders.

How accurate is your product delivery mechanism? The answer to this is directly related to the organization’s ability to reduce the risk of the incorrect item being shipped. This begins at the time the goods are received at your facility. Are they packaged properly? Did they arrive undamaged? Are they the right quantity, quality, and design? There is an old saying in the computer world that says “garbage in garbage out.” If the receiving area is not ensuring quality and accuracy on the way in, outbound will have a difficult time achieving their goals. The goods must be received properly and stored in the correct location to allow the next phase of the business to meet their goals.

If the delivery operation fails the potential for the order to be inaccurate increases. If the order was entered incorrectly by order processing or the wrong items are picked/packed/shipped by the distribution team you have failed to provide the customer their requested order. The organizations that develop systems with checks and balances will succeed at ensuring the correct goods are sent to the customer. Inventory control, quality control, and well-trained employees provide these checks and balances. If the wrong goods are shipped inventory variances will show when cycle counts are performed. This requires research to determine the cause and additional resources for re-shipments to the affected customers. Quality inspection of the process starts from receipt of goods continues through production and ends with outgoing packages being checked for accuracy. Customer complaints to the customer service department will show inaccurate shipments but it might be too late to achieve customer satisfaction and loyalty, so get it right the first time.

Well-trained employees will enhance the organization’s ability to reach the established Perfect Order goals. Well documented, detail oriented processes and procedures that can be referenced by employees as well as used in training are invaluable as teaching tools. In addition to training, the accuracy of the products picked for the order can be improved through technology. Pick-to-Light and Pick-to-Voice are advanced technologies that are designed to help organizations keep accuracy levels high and to improve efficiency. Radio frequency (RF) technology is widely used as an economical approach to improve accuracy. A radio frequency transmitter reads the RFID tags on products and compares that information to an order-tracking program to see if it matches what the customer requested. These systems operate like a grocery store checkout counter. They can track inventory, remove and transfer inventory from the database, and be utilized as a verification tool to improve accuracy of products picked.

What areas of your business are involved in getting the product to the customer when they want it? On-time delivery of an order is a process of your entire organization and requires order entry and processing, order pick/pack/ship, and delivery to work correctly to ensure timely receipt of the order at the customer’s site (Keebler et al. 1999, p. 143; exhibit 5.9). In further detail, this means in order to deliver the order on
time it must be taken in a timely manner, processed properly, and sent to the distribution center with sufficient time to fulfill the order. The pick/pack/ship operation must be performed properly. The package must be delivered by the correct carrier, in the time frame needed, and reach the customer when they requested it.

Did the product arrive at the customer’s location undamaged? This component of the Perfect Order has both internal and external factors. Within the organization, precautions must be taken when loading and unloading the truck or forklift to keep the products damage free. Externally we have all heard about the long haul delivery trucks and their bumpy rides down our nation’s highways and the potential for damaged goods. These factors are hard to control but very important to prevent damage to your goods. How do you manage these factors and what areas of your organization can help prevent this? To prevent damage, think packaging (bubble wrap, paper, or packaging peanuts). What works best for your firm will depend on the type of product you are shipping and the quality team will be responsible to ensure the goods are packed properly based on engineering’s recommendations. The distribution team will have to ensure they are following the recommended guidelines to get the package undamaged to your customer.

When your customer receives their goods they also receive an invoice to pay for those goods. If that invoice is not accurate your organization will not be paid in a timely manner. Furthermore, the extra handling, additional phone calls, follow up letters, reissuing of a correct invoice and the time value of the money while your organization is waiting for payment all detract from the profits made on the shipment. If your organization can calculate the cost to process an invoice if it is correct, you can double that cost for every one that is wrong because you must repeat the same functions to correct it.

Without much difficulty it can be shown that the Perfect Order measurement can present a snapshot of the overall health of your organization. It can point out deficiencies within your organization, as well as the strengths. It gives you a quick insight into the overall strength of your supply chain, your ability to handle customers quickly and efficiently and the strength of your firm’s cash flow. So how do you get started measuring your Perfect Orders?

Implementing Perfect Order Measures

The most important part of any Perfect Order measurement implementation is convincing upper management of its importance since the support of this group will motivate the organization to make continuous improvement necessary for the Perfect Order process. The implementation checklist for the Perfect Order is determined by what you are going to measure. You should look at your organization and determine how many and what measurements are important in your Perfect Order efforts. For example, at the 2005 Food Marketing Institute’s Distribution Conference “Dee Biggs, director of demand fulfillment services for Welch’s, introduced a revised list of criteria for the ‘perfect order’ which now includes order cycle time. This metric was included because for many retailers tracking this metric will enable them to decrease inventory” (Gallagher 2005, p. 48). The checklist will vary for each organization and Table 1 provides an example of eight Perfect Order metrics that may be evaluated.
Table 1. Perfect Order Implementation Checklist

<table>
<thead>
<tr>
<th>Order Entry</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response time via the following:</td>
<td>Pick list complete</td>
</tr>
<tr>
<td>• Fax</td>
<td>Pick/pack/ship operation complete</td>
</tr>
<tr>
<td>• EDI</td>
<td>Packaged properly</td>
</tr>
<tr>
<td>• Voice</td>
<td>Correct ship to in manifest system</td>
</tr>
<tr>
<td>• Email</td>
<td>Correct bill to in manifest system</td>
</tr>
<tr>
<td>Order Keyed properly</td>
<td>Shipped to request date</td>
</tr>
<tr>
<td>Parts</td>
<td></td>
</tr>
<tr>
<td>On-hand at shipping point</td>
<td>Correct carrier used</td>
</tr>
<tr>
<td>Backordered</td>
<td>Correct carrier account number used</td>
</tr>
<tr>
<td>Shortage in system</td>
<td>Arrived according to selected service schedule</td>
</tr>
<tr>
<td>Complete order available</td>
<td>Freight charges correct</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>Customer feedback</td>
</tr>
<tr>
<td>Invoice paid on time</td>
<td>Customer complaints</td>
</tr>
<tr>
<td>PO match</td>
<td>Package refused</td>
</tr>
<tr>
<td>Correct amount collected</td>
<td>Correct technical support information attained by customer</td>
</tr>
<tr>
<td>Total Orders shipped</td>
<td>Total Lines shipped</td>
</tr>
</tbody>
</table>

The amount of detail that is needed to measure the Perfect Order is different for each organization. When the preparation of the checklist begins, the organization should look at all areas that come in contact with the customer and determine if measuring it is important. The following are some questions that might be considered. Does this measurement really help the customer understand the level of service provided? Does it help the organization improve the service provided? If the answer to either question is yes then that measurement should be on your checklist. Once the checklist is completed, you must begin gathering your data.

Where is the source of the data that is needed to meet the measurement requirements? Each organization will find it in many different places. Some data will be found in company records, but other data points may be manually collected. A variety of sources are needed to help the firm measure what really affects the customer’s ability to do business with your organization. One might think that key metrics of logistics operations may already be tracked, for example, order fill rates. Unfortunately, (Keebler et al. 1999) state that “20 percent [of companies surveyed] do not track on-time delivery or order fill rates. Even when order fill, line fill, and case fill are combined, only 82 percent indicated that they measure any one of the three. Those are fundamental (and relatively simple) measures that are critical to customers” (Keebler et al. 1999, p. 58). Finding the right place to get your data is critical to the success so care must be taken when beginning to produce your charts. What is the definition of an on-time shipment? Is it when the customer receives the product or when it leaves your shipping department? What your customer expects is the correct place to start and “suppliers cannot satisfy their customer’s expectations if the two parties have never even
defined those expectations” (Cooke 2001, p. 45). So it is important to include your customer in the Perfect Order process.

Realize that determining the appropriate data for your measures may be an iterative process. Think about the steps it will take to get to the one or two final measurements from your department or group that will roll up to the organizations Perfect Order measurement. Your first try at measuring a function will result in further exploration and more detailed measurements. “Interviews with 22 companies revealed a number of logistics managers who had begun their measurement programs very modestly. Many, in fact, initially used little more than a simple spreadsheet to calculate one or two measures of performance.” (Keebler et al. 1999, pp. 61-62) Start simple and work your way up to the right measurement that you and your customer agree is a true picture of your department’s interaction with them. That is the one metric that should be a part of your Perfect Order measurement. Novack and Thomas (2004) identified several challenges associated with the implementation of the Perfect Order concept. While all the challenges they mentioned will have some impact on the accuracy of the Perfect Order measurement, one especially frustrating challenge is that of lagging data. They indicated that it may take weeks or months for the data associated with a particular order to become available (p. 12). This can make frequent assessments of the Perfect Order metric difficult to achieve.

Management must decide how to communicate the measurement data results to the entire organization and to their customers. A spreadsheet of raw data could be sent to the different departments, but what is the best way to tell the story of your organization’s Perfect Order? What format do you follow and which is the appropriate audience to view this data, groups that are internal or external or both? “Before new logistics measures can be rolled out, logistics managers must communicate the importance of the new measures to all critical constituencies; educate and train the managers and workers about how to utilize the new measures” (Keebler et al. 1999, p. 150). The first step is to communicate the goals of the initiative. The organization must understand the importance of these measurements and why these measurements are important to both internal and external customers. This will help each department gain the insights necessary for improvement in their area and a realization of how their department interacts with the entire organization. Options to demonstrate the findings exist. Look for ways to determine what is wrong if you are not reaching your goals. How can you trace the problem back to the process that needs attention? Being able to measure it is important but making improvements based on those measures is even more important. “Many of the traditional quality improvement methodologies such as Pareto and root cause analysis will help managers make a clear case for specific remedies.” (Keebler et al. 1999, p. 152) Using the data collected to improve your functions and processes is one way to improve customer satisfaction.

The actual communication mode utilized will differ from organization to organization. The company Intranet, regular group meetings, or bulletin boards in the break rooms are all great places to post results. The more publicity the information receives the more accepted it becomes. Effective communication is achieved when the measures become a part of the company culture. When each employee understands why these measures are important to their organization it ensures the customer is taken care of the company has a true workforce dedicated to customer satisfaction and loyalty.

CONCLUSIONS

The Perfect Order has been defined herein, based on the functions and processes that make up the components of the measurement. But those are just numbers on a paper or plots on a graph. What is it we are really trying to measure? Really management is trying to measure the organization’s ability to satisfy and retain a customer long term. What you are really measuring is your organization’s ability to achieve one common goal. If every department and each employee is working as a cohesive team you will be successful
in reaching the Perfect Order status on a consistent basis. The reality is that you are examining the numbers and plots on the graphs to attempt to make decisions that will improve the same functions and processes you measured. What goal did you set for your organization? How do you determine what is an attainable goal? In a survey of distribution center managers conducted by the *Mid-South Roundtable of the Council of Logistics Management*, the average Perfect Order measurement reported was 92% and the median was 95% (Beinstock and Randall 2004). Step goals work great when you are starting out, so set an intermediate goal of 80% and then step it up a few percentage points once you have consistently achieved the level, continuing the increase until you reach your ultimate goal.

When you miss a goal research why by examining the process or function to determine why it failed. Remember, “you can not fix what you cannot measure” (Keebler et al. 1999, p. 150). The converse of course is true. If you can measure it you should be able to find a way to fix it. Enlist the help of the team to evaluate the steps in the process to cut out waste or to improve the flow of the process. “Getting alignment within your own organization about what actions to take requires perseverance and hard work” (Keebler et al. 1999, p. 152). Realize that “a ‘fix’ for the part of the system may in fact simply create a problem somewhere else” (Keebler et al. 1999, p. 153). This makes it very important to communicate with all parts of the organization. Reaching world-class levels of Perfect Order measurements requires a constant examination of the functions and processes to ensure accurate and on time delivery of your goods to your customer. Achieving the Perfect Order may take more effort than companies think. “Companies that want to achieve and then maintain high perfect order rates may have to restructure their supply chain processes from end to end. They have to build systems that connect them in real-time to both suppliers and customers, thus enabling the development of tighter relationships with both parties. They have to feed information from customers back to suppliers and get a clear forecast of customer demand. And internally, they have to improve long-term demand visibility through constant collaboration between supply chain leaders and the sales and marketing departments” (Patton 2005).

In 1997 the American Productivity & Quality Center conducted a multicomp company benchmarking study entitled “Order Management: A Core Competency” for the purpose of identifying and examining “innovations, best practices, and key trends in the area of order management” (American 1997, p. 6). They concluded there were ten key findings that emerged and one finding (number six) was especially important to this topic: “Companies are adopting the Perfect Order concept (a logical extension of Total Quality Management [TQM])” (American 1997, p. 6). Industry has started to accept the concept of the Perfect Order and is realizing the benefits it provides.

“Organizations find that involving the customers in the order management process is critical to the success of both the organization and its customers:

- Customers are also an integral part of measuring the Perfect Order,
- Senior management, accounting/finance operations, logistics and distribution, and buying or merchandising are key areas in which customer data is collected and used to obtain perfect order measures, and
- By using the Perfect Order concept, companies demonstrate a commitment to deliver perfection to their customers” (American 1997, p. 8).

Organizations that measure the Perfect Order also pay attention to what could cause an “imperfect order.” According to the APQC study, factors that typically contribute most to imperfect orders include “(1) Lack of in-stock product availability, (2) Poor on-time delivery performance, (3) Inconsistent carrier transit times, and (4) Deductions by customers from invoices. Management of the Perfect Order environment requires companies to routinely measure performance in each of the components” (American 1997, pp. 8-9). By using the measurements identified for your organization managers can make informed decisions on what areas need improvements or are working well. They can re-allocate resources where needed to drive...
improvements. They can communicate with customers on issues to work out mutual corrections that will benefit them both. This is completed in each department or group, in your organization that touches the customer. Improvements are the only outcome of such process reviews if everyone participates. To get to the top and to stay in front you have to set high standards. If you are not willing to do so you will struggle to be the best in your industry. The culture of your organization has to be quality minded and understand that this leads to customer satisfaction and ultimately customer loyalty. Statements in your corporate goals or quality policy really carry very little weight if they cannot be measured. The true test of your organization's strength should be measurable. Financial analysis, cost analysis, and efficiency measurements are all important.

The Perfect Order is not a panacea; instead it is a measurement that provides a snapshot of your customer satisfaction levels. The other measurements (e.g., financial) are important, but without loyal and satisfied customers they will not mean much. The customer is important in helping to set these goals and should have inputs to help the organization realize growth and improvement. According to Camp (2001) the goals in measuring the Perfect Order should be designed to “meet customer requirements (e.g., level of service)” by providing goods at the:

- Right Product
- Right Place
- Right Time
- Right Condition
- Right Configuration
- Right Solution
- At Minimum Cost and Asset Levels

The effort involved in developing the Perfect Order measures is worthwhile, since “the Perfect Order has several advantages over traditional measures. The Perfect Order allows firms to (1) consistently meet or exceed customer expectations; (2) improve customer service flexibility; (3) reduce order cycle time; (4) reduce variable and inconsistent service; (5) create an environment for better decision making; and (6) identify major bottlenecks and deficiencies within the order management system” (Mullinix 1998, pp. 93-94). “At the end of the day, what really matters is how well you can deliver what the customers want, when they want it. Everything else you measure—your demand forecast accuracy, your plant utilization, your inventory levels, your cycle times— is secondary” (Hoffman, 2002, p.1). “Consistently achieving Perfect Order performance requires excellence from all areas of the organization, but this is especially so in the planning, scheduling and execution of jobs and resources” (Cox 2005, p. 74). But after all, it is through the constant monitoring of this measurement that the organization will get the ultimate measure of the organization -- how the customer is being satisfied.
REFERENCES