

Productivity and Wages: Successful Business Partners

The Four Pillars of Business Motivation

The operation of business is probably one of the most studied processes on the planet. Labor is a basic building block for all businesses whether it is a Mom and Pop sole proprietor or a Fortune 500 corporation. However, during the recent economic recovery jobs were hard to find even though corporate profits increased. Recently a colleague described the four top concerns of business; profit, limited liability, ease of use, and productivity. Employment was not an input in this formula nor was wages or benefits included in these four pillars. So why does compensation always take the headline for business? Or are we misinterpreting or simply unaware of the productivity data?

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Lower Salaries: Why a Race to the Bottom

Businesses are in a constant state of change. Establishments continually make product and process changes, and new ventures start-up while other are dissolved. Along with these business changes, some firms will look to relocate or expand. Location decisions typically involve in-depth analysis of economic and market data long before the first service or product is delivered. A business plan usually outlines these decisions which incorporate production, marketing, sales and cost information, including specific data on wages and salaries. Wage and salary information is easily obtained either from current business records or from Minnesota's Salary Survey. On-line at <http://www.deed.state.mn.us/lmiltools/oes/>

Minnesota's Salary Survey produces data for a number of different geographies including Northeast Minnesota. The salary survey displays the distribution, or range of wages, in terms of percentiles from the 10th to the 90th. (See table 1.) Often businesses ask if the 10th percentile is the beginning wage or "entry level" wage. It is not. On closer inspection why do wages vary? How can one employee earn twice as much in an occupation as another in the same job? The answer lies in a number of factors, including education, tenure, location, skill, and productivity. Productivity is the key factor or glue that binds these attributes together determining wage rates.

The salary survey also provides excellent wage data for comparative analysis of wages in different regions of the nation, and even wages in different regions with the same state. If one region has lower wage rates than another this could present an opportunity for arbitrage. Arbitraging is the practice of taking advantage of an imbalance between two markets, in this case labor markets. If a business would simply "strike a deal" by locating in a region with favorable wage rates, and hire the lower cost available labor, a profit could be realized from the difference in these wage rates alone. (See table 2.)

This relationship between labor cost and profit is calculated frequently. Of course the answer is intuitive; lower wage rates decrease expenses potentially increasing profitability, and profitability is one of our pillars of business motivation. But wait-if this is true, business placement or expansion decisions should be straight forward- simply go where the costs

(wages) are lowest. In fact, they are not and one reason is the relationship between wages and productivity.

Productivity: The Silent Partner

Productivity measures how effectively economic inputs are converted into output, which are the goods or services that business sells. Labor and materials are included in this calculation. So when more is produced with the same or less we can increase income (that is value added) and potentially increase profit. Typically this is accomplished by increases in labor efficiencies. The Bureau of Labor Statistics (BLS) measures productivity on a national basis only. Table 3 illustrates the variability of productivity changes across a sample of manufacturing industries from 2000 to 2001. The BLS reports the ratio of output of goods and services to labor hours devoted to the production of that output. Stated as a formula: $\text{unit labor cost} = \text{hourly compensation} / \text{productivity}$. Productivity, however, reflects the joint effect of a number of interrelated influences such as changes in technology, capital investment per worker, utilization of capacity, layout and flow of material, skill and effort of the work force, managerial skill, and labor management relations. 1 Some of the outcomes from analyzing output per hour (labor productivity) include determining labor utilization rates, projecting future employment requirements, and, of course, measuring costs. Table 3

Evaluating productivity thus becomes a necessity. However measuring productively requires a detailed understanding of process inputs. Programs like ISO 9000 (International Standards Organization), Total Quality Management (TQM) and Toyota Production Process (TPS- inventor of lean manufacturing) measure this data internally. Even with measurement accuracy the processes that define an establishments productivity, are not easily copied to other regions because of differences in employee characteristics, margin contribution, pool of labor, availability of capital and technology and efficiency of supplier inputs.

Technology: Only Part of the Productivity Picture

Technology is often identified as a key ingredient to productivity improvement. The United States Department of Agriculture studied technology and the differences between rural and urban manufacturing facilities². The study noted that "when average technology use by rural-urban category is standardized for industry mix, the technology gap is eliminated for all but the completely rural category". Regardless of location similar industries use like technologies. The study identified inadequate worker skills and knowledge as the number one barrier to rural technology adoption. It appears that strategic advantages emerge from the shadows in two areas; knowledge and capital investment. Both are drivers of productivity.

As an example Duluth graduates 175 information Technology students for the 2002-2003 academic years, while the region as a whole graduated 248. (See table 4.) This is also true of a number of other occupation groups. Developing a workforce with knowledge and skills and managing businesses to effectively utilize those workers then becomes an important

competitive advantage. Jeffrey K. Liker in his book "The Toyota Way" writes, "when waste is stripped out of a system one needs to provide support for this highly productive and value added employee"³. With higher productivity comes higher wages and capital investment. Canon Corporation using TPS reclaimed the labor equivalent to 35,000 workers, which they were then able to redeploy in another one of its key product lines.⁴

Productivity: A Key to Growth Strategies

The Bureau of Labor Statistics reported 2.9 percent second quarter 2004 productivity change in the non-farm business sector. This is the lowest productivity change within the last year but in line with the historical averages. Also reported was June job growth, trailing off significantly from gains made earlier in the year. With a decrease in productivity, companies need to consider new strategies for growth. The *Harvard Business Review* details five innovating strategies for a competitive advantage. TPS includes these innovation strategies in their productivity toolbox. World-class companies like Whirlpool and General Mills also use TPS techniques. Two of these strategies, ratio of innovator to total number of employees and ratio of learning over investment in innovation projects, are measurements of a company's forward drive. There is no mention in this article of finding the least expensive employees. In fact, the risk of a specific salary cost control focus can reduce top line growth affecting margins and ultimately reducing profit.

Multifactor Productivity: Measure What You Can

Business expansion decisions involve numerous factors, one of which is employee compensation. However, as stated earlier, employee compensation should be considered along with productivity. For ease of use, a simple example illustrates the process that includes productivity in salary and wage decisions. Median wage for Team Assemblers in Northeast Minnesota is \$11.04 with the 75 percentile wage being \$15.52 - This is a 40.6 percent difference in wage rates. 40 percent of the businesses total cost is labor then $.406 * .40 = 16$ percent. This 16 percent is the necessary multifactor productivity increase required to absorb this 40 percent higher labor cost. However, if a company were to achieve these required productivity increases, imagine the potential for increased profitability, enhanced ease of use, limiting liability, not to mention improved customer relations. The salary survey makes data available in a user friendly format along with a list of key skills and abilities. So the first step of identifying labor costs is an easy one. With that calculation out of the way we now can measure our other key business drivers.

Putting it all together: The Bottom Line Advantage

Measuring productivity is difficult. Even with applying the best tools intuition and judgment is still required. While this is a greater challenge than simply counting the cost, including productivity in our wage calculations and other operational measures, yields better estimates of business potential. Furthermore, when more complex decisions are discussed, productivity measurements can assist in effectively evaluating options that impact the four business pillars. Finally, utilizing Minnesota

Salary Survey data as part of your calculation uncovers shortcoming in salary-only decisions while perhaps suggesting opportunities for growth within your value-added employee team.

For more information on Minnesota's Salary Survey visit Minnesota Department of Employment and Economic Development, Labor Market Information online at: <http://www.deed.state.mn.us/lmi/tools/oes/>

For more information on productivity visit: The Federal Reserve Bank of San Francisco, Center of the Study of Innovation and Productivity, Online at <http://www.frbsf.org/csip/index.php> .

1 Source: Source: U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology. .

2 Gale, H. Frederick. Is There A Rural-Urban Technology Gap? Results of the ERS Rural Manufacturing Survey. Online at <http://www.ers.usda.gov/publications/AIB736/aib73601.PDF>

3 Liker, Jeffrey The Toyota Way. McGraw-Hill: 2004

4 Migliorato, Paul. "Toyota Retools Japan." Business 2.0 August 2004