

Quantitative decision making



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Toyota Industries Corporation (Steel Industry) Organizations especially business establishments need forecasting and the management in particular should engage in this process because what will be happening today depends upon the future. “ The purpose of forecasting is to inform decision making (to help shape future outcomes), not to predict the future” (Hope). Toyota is one of the leaders in the automobile and steel manufacturing industry. Currently, the company’s financial position is weak and its external environment is struggling. One of the cited reasons is the major earthquake and large tsunamis that hardly-hit Japan last March 2011. The catastrophe had halted its domestic production and suspended its manufacturing operation because two of its refinery and assembly plants near the epicenter of the earthquake had been burned (“ Japan Earthquake”). Due to this event, Toyota had experienced a decline in their monthly sales and reported the biggest lost in the company’s history. Forecasting underlying demand for steel in Japan is made to be difficult, “ since substantial part of Japanese domestic steel consumption depends on exports of products containing steel, such as the automobile and consumer durables sectors” (Old et al., 92). In addition, the event is difficult to forecast for it is critical for the company to evaluate the impact of the natural disaster to worldsteel demand. However, the worldsteel Economics Committee forecasted that “ apparent steel use will increase by 5. 9% to 1, 359 mmt for 2011, following 13. 2% growth in 2010. In 2012, it is forecast that world steel demand will grow further by 6. 0% to reach a new record of 1, 441 mmt” (“ Worldsteel”). But the forecast is said to be biased for it is prepared before the occurrence of the natural disaster. It is illustrated in figure 1, the historical relationship of global GDP and steel industry from 2009 to 2010. In just a matter of one

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year, the steel demand would rise from -7% in 2009 to +4% in 2010. Thus, the increasing demand will likely to extend in the upcoming years as they have in 2009-2010; however, this demand forecast could also be wrong.

Figure 1: Global GDP & Steel Demand Source: Taccone The earthquake and tsunami in Japan had negative impact on its economy, leading the country into the depth of recession, the falling of the stock market and the weakening of steel demand/production (“Japan Crisis”). These events are not short-term because the economy would continue to shrink until the end of the second current quarter. Toyota is still undecided if they should cut off production for least 50% or continue to expand even though Japan’s economy does not yet fully recover (Ozawa). The fact that Toyota could not immediately respond on the changing of events, whether to cut output or continue a full-service operation, then forecasting should be done. It needs to gather all quantities that need to be forecasted, such as consumer spending and determine the time intervals (short, medium or long term). Toyota could use the time series model in forecasting. The model will be using historical data in attempting to predict the future, and forecasting will be made easier because the past patterns can be used as basis to forecast future data points. The forecast will be more accurate and consistent if the given pattern is closer to the recent data, because of small time intervals. Lastly, if the company’ forecast illustrates that it needs to return to its pre-earthquake levels because the recovery is strong, then the result should be validated and implemented. However, it should always be considered that forecast is subject to error and it could be wrong, thus decision making should be validated. Works Cited Hope, Jeremy. “Use a rolling forecast to spot trends.” Harvard Business School Working Knowledge. Harvard Business <https://assignbuster.com/quantitative-decision-making/>

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