

## BEST PRACTICES

# Uniform Maker Sews Up Success With Scorecard

by **Gus Gordon**

**A**s CEO and majority stockholder of a sewing factory in Mexico, my chief responsibility is to respond to the growing competitive threat represented by China. Furthermore, as an ISO 9001 facility we are challenged to continuously improve. Recently, our company seemed to have reached a

### In 50 Words Or Less

- **A balanced scorecard (BSC) can help an organization focus on strategy and measure effectiveness.**
- **By connecting critical factors and functions to the respective business dimension, the BSC methodology helps in the delivery of the value propositions desired.**
- **One manufacturer implemented a BSC to overcome obstacles caused by rapid business growth.**

plateau. A methodology to guide and organize our continuous improvement efforts was needed to move the company beyond this plateau to the next level.

As a former professor, I had taught the benefits of using the balanced scorecard (BSC) to assist in focusing strategy and measuring effectiveness of an entity.<sup>1,2</sup> The BSC recognizes that any organization is really a system comprised of various components and perspectives that impact overall performance. Those are financial components, the customer's perspective, the organization's internal business processes and the organization's ability to learn and grow, which is affected by its intangible capital.

I proposed the use of the BSC to our management team and guided the planning team in its application for our continuous improvement project.

### The Company

Operadora Ganso Azul S.A. de C.V. began operations as a *maquiladora* in January 2000, employing about 16 people in Merida, Yucatan, Mexico. A *maquiladora* is a factory that imports materials duty



free for manufacturing. The assembled product is usually exported back to the originating country. Ganso Azul manufactures uniforms for police officers, firefighters and other types of security personnel.

The company took off—and we expanded steadily to fulfill orders.

- **March 2002:** The operation had grown to 85 employees and had moved to a new factory building with about 35,000 square feet.
- **Summer 2003:** Ganso Azul expanded its facilities to 50,000 square feet.
- **February 2005:** The number of employees had grown to about 450.
- **Summer 2005:** The company moved operations to an even larger factory—70,000 square feet—to expand production.

Such rapid expansion created some inefficiencies and loss of control over parts of the operations. While ISO 9001 had helped re-establish control, inefficiencies continued to plague operations.

Before we implemented plans in late March, some key statistics (measured from the beginning of the year to the end of March) painted a less than promising picture for Ganso Azul:

- **Production efficiency had trended down** from 59% in the first couple of weeks of January to 52% in late March. Our goal was 75%.
- **Cost per minute of production was up** almost 2 cents per minute from our goal (unadjusted for exchange rate fluctuations).
- **Quality audit pass rates**—based on our customer's quality audits of our finished products—were 96%. Our goal was 98% minimum.
- **Replacements of finished or partially finished garments were relatively high**—as many as 350 units per week. This added to costs. We were processing (sometimes partially) units to the finish phase that either could not be sold to our customer or could be sold only as seconds, or flawed, units. The most disheartening part of this? Each week, as many as 40 units were being replaced because small pieces of cut fabric were lost in the production process.
- **Production goals were falling short**—on average about one-third of the time on most

products. We were meeting delivery time on most orders only through excessive overtime, which drove up costs.

- **Turnover** averaged almost 6% during the first three months of the year. Absenteeism averaged a little more than 3%.
- **Machine downtime** was running at about 3.5% of total available time. Our goal was 2%.
- **Our customer was finding discrepancies** in what it received at the distribution center as final product vs. what we said we were sending on about 2% of orders. Our goal was to have zero discrepancies.

It was imperative to find a solution and ensure the viability of the company. ISO 9001 had forced us to think about what factors should be measured to satisfy the customer. Now we needed to think about what should be done to get the results we were already measuring.

### Methodology Implementation

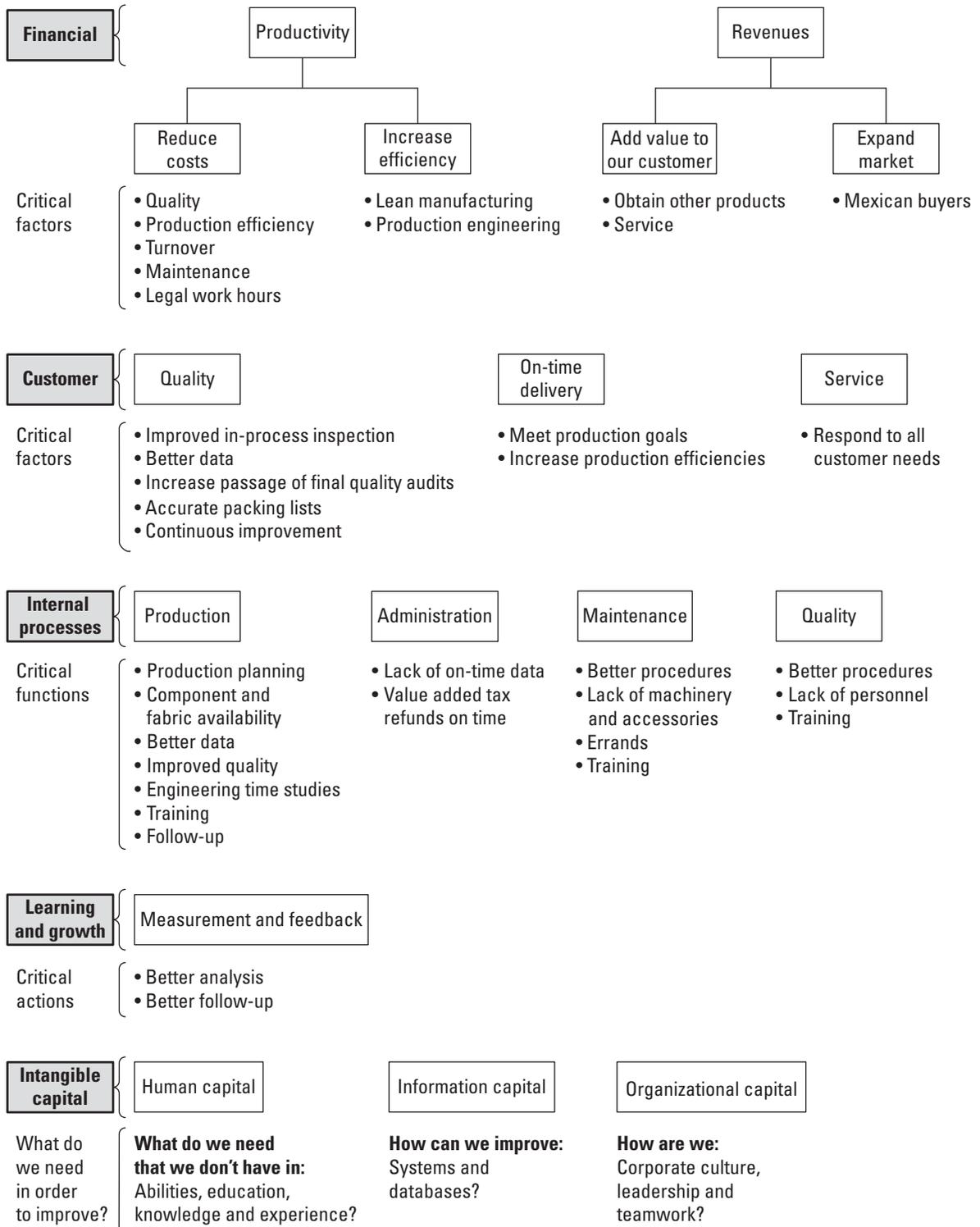
The BSC proposes that overall entity performance ultimately is affected by various components or perspectives. Critical factors impact each of these perspectives or dimensions of the business. If these critical factors can be improved, the corresponding business dimension will improve, as will financial results.

The idea is first to identify the financial goals desired—presumably increased revenues and productivity. Then, determine the value propositions to deliver the financial results. Next, identify the business processes most important to creating the value propositions. Finally, ensure proper learning and growth within the company, which depends on the human, information and organizational capital of the entity.<sup>3</sup>

At Ganso Azul, the general idea of the BSC was explained to the top and middle management group of 12 after financial goals had been specified. Members of the group were asked to think about the critical factors they believed would affect each business dimension to obtain the specified financial goals. Each member's ideas and opinions then would be discussed in brainstorming sessions.

Everyone contributed during several sessions over a three-week period. A graphic of the results of the brainstorming sessions is shown in Figure 1. It

**FIGURE 1** Critical Factors for Ganso Azul Success



became obvious the key to financial success for the company hinged on increasing production efficiencies and improving quality. Therefore, it became important to understand the critical factors specific to our internal processes that would drive improvement in production and quality.

After identifying the critical factors, a written plan was developed that addressed each critical factor important to improve each business dimension of the BSC. Often, more than one plan was developed to address a critical factor. A total of 44 separate plans were developed, each holding an individual responsible for completion on a deadline.

The most difficult part of the BSC methodology is identifying the critical factors and functions necessary within each dimension to increase the likelihood of delivering the value propositions desired. Once this has been accomplished, the development of action plans flows logically from the critical factors and functions previously identified.

For example, Figure 1 illustrates customer satisfaction depends on quality, on-time delivery and service. One critical factor related to on-time delivery is production efficiencies. Critical functions measured under the production process include better data, improved quality and engineering time studies. All could increase production efficiencies.

With better data, we could identify specific problem areas affecting efficiency and quality. By improving quality we could reduce rework and increase efficiencies. Undertaking engineering time studies could produce better, more efficient methods.

### Action Plans

One action plan called for our production team to determine the additional relevant data we needed to collect. One particular problem we knew we had was the inordinate amount of replaced (finished or partially finished) garments. Therefore, we began to collect detailed data on why parts or finished units were being replaced. We discovered problems with replacements came from three primary sources:

- Flawed fabric.
- Improper cutting of fabric.
- Damaged or lost cut parts in process.

To address each of these problems, we implemented the following:

**Flawed fabric:** We acquired a machine to inspect fabric prior to cutting. This prevented fabric with flaws from entering production.

**Improper cutting:** We required each cutter to sign a cutting report based on production orders and when problems with cutting were encountered. We were able to trace the error back to a specific cutter and hold the cutter responsible. The accountability helped improve the situation.

**Damaged or lost cut parts:** Data were reported concerning two specific production lines losing cut parts. Our controls were sufficient to give high probability the cut parts were entering the line and never leaving. We began to refuse to replace lost parts and require the supervisor to find them. Soon, lost parts were being found in all cases. Apparently it had been easier to ask for replacement parts than look for the parts.

**Efficiency reports:** We began generating a report from our database to show which operators were below a certain threshold of minimum efficiency over time. From this information, we developed a procedure assigning specific production engineers to groups of low efficiency operators to perform time and method studies.

**Quality points:** We instructed the quality department to identify quality points for each operation. Quality points are essentially extracts from the specifications that apply to the operation under consideration. The points were posted next to each machine performing the indicated operation, giving workers quality indicators—easily accessible and immediate—to guide them with no other intervention by supervisors or quality inspectors.

In this way we designed quality into the production process. For example, a sewing machine operator with the task of closing the side seam of trousers has three quality points posted next to the machine:

- Ensure 10 to 12 stitches per inch.
- Don't miss any stitches.
- Ensure there is no puckering on the seam.

The operators were expected to follow these points strictly before passing the garment to the next operation.



**In-process error reports:** An additional quality action plan required the development of a program to retrieve data on types of errors discovered by in process quality inspectors. We used this report to assign trainers to attack excessive errors by operators listed in this report.

## Turning It Around

One of our most serious deficiencies was repetition of the same mistakes. We were not learning from our errors. It became clear our intangible—human and information—capital was lacking, which was impeding the learning and growth processes.

- We did not have an experienced and well-trained production manager with the know-how to attack production problems. We lacked leadership on the production floor.
- We did not have the data in an analyzable form allowing us to identify where and why the problems were occurring.

We set in motion a search for a production expert. The engineer's experience was crucial in determining what data to extract from our database to understand the where and the why of our problems. At the same time, we began a series of courses at the operational level to inculcate a quality attitude and clarify the specifications of each product.

Human and information capital was not the only intangible capital that needed improvement. The company had grown too fast from a small start-up to a medium-sized company without going through the necessary maturation in the organizational culture. The human and informational capital needed to be nurtured.

The management team felt excessive pressure, which had created and exacerbated personality conflicts and internecine warfare. With the rapid growth and the demands to meet the production goals, the atmosphere and tone had become too negative. Communication and teamwork was lacking.

An outside consultant's survey confirmed these organizational deficiencies. There needed to be a change in organizational culture to ensure serious commitments to company goals were maintained

without the management team's feeling excessive pressure to perform.

This was accomplished through a re-education of the management team. Essentially, this consisted of instilling confidence in the team and assuring its members they were very capable. Solutions to our

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problems could be found within our group, but this would require teamwork and communication. Our organizational culture problems were somewhat exacerbated by some traditional beliefs in the region in Mexico in which we operate. Having experienced past working conditions that enabled some company owners to take unfair advantage of workers, many of Ganso Azul workers were naturally suspicious of management.

Our management team worked together to provide open, honest and sincere explanations to promote the vision of all of us being in the same boat with shared benefits of success. The employees accepted the idea they were stakeholders.<sup>4</sup> The culture improved immensely at all levels.

As a result, we were able to convince employees everybody was going to benefit from certain measures and some sacrifices to make the company more competitive. Everyone understood staying competitive increases the likelihood of continued employment in this region of Mexico, which was

losing employment in the *maquila* industry. The sacrifices made by the employees included increasing the number of work hours in the week to the maximum permitted by Mexican law without increasing wages.

The change in organizational culture leveraged the benefits of improved human and information capital. Table 1 illustrates where we ended the year after implementing our plans.

**TABLE 1** Key Statistics Before and After

Statistic	Before BSC	After BSC	Goal
Production efficiency	52%	75%	75%
Production cost per minute	2 cents above goal	.005 cents above goal	Proprietary
Production goals	Under goals	Above goals	Variable
Quality audit pass rate	96%	98%	98%
Replaced garments per week	350	150	Not identified
Orders shipped on time	90%	100%	100%
Turnover	6%	2%	2%
Absenteeism	3%	1.30%	1%
Machine downtime percentage	3.50%	3%	2%

**Lessons Learned**

It is clear our approach was too comprehensive for the time period contemplated. We made an all-out assault on the problems and developed 44 plans to address the problems. While successful, we probably could have had similar results with less effort by focusing on those areas that would have given us the biggest bang for the buck.

With 44 different plans, most of the 12 members of the management team were responsible for more than one plan. Inevitably, deadlines were missed, causing some disappointment and a somewhat negative effect on the team and the effort.

Because it was clear the keys to our success were to increase production efficiencies and improve quality, we should have focused our efforts more on the precise factors that affected efficiency and quality. This would have meant fewer plans and less diffusion of the team’s energy.

Furthermore, the concept of learning and growth strikes at the heart of continuous improvement. Our efforts at increasing the intangible—human and information—capital of the company surely enhanced the other aspects of our BSC efforts.

**Company as System**

Prior to the BSC approach, our efforts at continuous improvement had not been successful. The use of the BSC forced our team to think of the company as a system comprised of aggregate parts that affect the whole.

The BSC helped us understand the problems and better formulate strategies to obtain the desired

results. Viewing the company as a system of aggregate parts also clearly illustrated teamwork and communication were important to success. Finally, the benefits of improved intangible capital cannot be overemphasized. For Ganso Azul, the results spoke volumes for the methodology.

**REFERENCES**

1. Robert S. Kaplan and David P. Norton, *The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment*, Harvard Business School Press, 2001.
2. Balanced Scorecard Institute, [www.balancedscorecard.org](http://www.balancedscorecard.org).
3. Robert S. Kaplan and David P. Norton, “Measuring the Strategic Readiness of Intangible Assets,” *Harvard Business Review*, February 2004, pp. 52-63.
4. Tito Conti, “Making Stakeholders a Strategic Asset,” *Quality Progress*, February 2004, pp. 53-59.

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